

Amendments to the Claims:

Please cancel claims 1-10, 16-20, 26-30 and 48-53.

Listing of Claims:

1-10. (Cancelled)

11. (Original) A magnetic structure, comprising:

a magnetic memory cell structure having multiple layers, the multiple layers including a first ferromagnetic layer, a tunneling layer, and a second ferromagnetic layer;

a nonconductive layer surrounding the magnetic memory cell structure to expose a portion of the multiple layers of the magnetic memory cell structure remaining exposed through the nonconductive layer, the exposed portion of the multiple layers including the tunneling layer; and

a conductive layer for conducting a current to generate a magnetic field to partially select the magnetic memory cell structure, the conductive layer formed superjacent the magnetic memory cell structure and the nonconductive layer, the conductive layer adjoining the exposed portion of the multiple layers of the magnetic memory cell structure.

12. (Original) The magnetic structure of claim 11, wherein the conductive layer includes a first depth and a second depth having a magnitude less than the first depth, the second depth corresponding to a portion where the conductive layer adjoins to the top layer of the magnetic memory cell structure.

13. (Original) The magnetic structure of claim 11, wherein the conductive layer conducts a row current.

14. (Original) The magnetic structure of claim 11, further comprising a top layer superjacent the first ferromagnetic layer, and wherein the top layer of the magnetic memory

cell structure includes a barrier layer to inhibit diffusion of atoms from the conductive layer into the magnetic memory cell structure.

15. (Original) The magnetic structure of claim 14, wherein the barrier layer comprises tantalum.

16-20. (Cancelled)

21. (Original) A magnetic structure having an active area and an inactive area, comprising:

a substrate having an active area and an inactive area;

a memory cell structure formed over the active area of the substrate;

a nonconductive layer formed surrounding the memory cell structure; and

a conductive line adjacent the magnetic memory cell structure to conduct a current to generate a magnetic field to partially select the magnetic memory cell structure, the conductive line having a first width over the inactive area and a second width over the active area, the magnitude of the second width less than the magnitude of the first width.

22. (Original) The magnetic structure of claim 21, wherein the conductive line is formed below the memory cell structure.

23. (Original) The magnetic structure of claim 21, wherein the conductive line is formed above the memory cell structure.

24. (Original) The magnetic structure of claim 21, wherein the conductive line is formed from copper.

25. (Original) The magnetic structure of claim 24, wherein the memory cell structure includes a tantalum barrier layer that inhibits undesired diffusion of copper atoms.

26-30. (Cancelled)

31. (Original) A computer system, comprising:

- a processor;

- a memory system that comprises a plurality of memory modules, one of the plurality of the memory modules comprises a plurality of memory devices;

- a plurality of command links coupled to the plurality of memory devices to communicate at least one command signal;

- a plurality of data links coupled to the plurality of memory devices to communicate data;

- a memory controller;

- at least one user interface device, wherein the at least one user interface device includes a monitor;

- at least one output device, wherein the at least one output device includes a printer;

- at least one bulk storage device, wherein at least one memory device of the plurality of memory devices is a magnetic structure, which comprises:

  - a magnetic memory cell structure having a top and a bottom; and

  - a first conductive means for increasing the flux density to unambiguously select the magnetic memory cell structure for reading and writing of information.

32. (Original) A magnetic memory structure, comprising:

- a memory cell having a ferromagnetic nature to change between first and second states when subject to application of a magnetic field having a magnitude greater than a threshold value; and

- a current path through which a current conducts, the current path having a first portion and a second portion to provide a magnetic field that couples the memory cell, the first portion of the current path providing a first magnetic field and the second portion of the current path providing a second magnetic field, the sum magnitude of the first and second magnetic fields exceeding the threshold value.

33. (Original) The magnetic memory structure of claim 32 wherein the memory cell comprises a ferromagnetic material having the characteristic that the state of the memory cell is dependent on a previously applied magnetic field.

34. (Original) The magnetic memory structure of claim 33 wherein the memory cell comprises multiple layers, each layer selected from a group consisting of a barrier layer, a seed layer, a pinning layer, a pinned layer, a tunneling layer, and a sense layer.

35. (Original) The magnetic memory structure of claim 34 wherein the barrier layer comprises a layer formed from tantalum.

36. (Original) The magnetic memory structure of claim 34 wherein the seed layer comprises a layer formed from a nickel ferrite layer.

37. (Original) The magnetic memory structure of claim 33 wherein the magnetic memory structure further includes a first surface and a second surface opposite of the first surface, and the first portion of the current path conducts the current in proximity of the first surface in a first direction and the second portion of the current path conducts the current in proximity of the second surface in a second direction opposite of the first direction.

38. (Original) The magnetic memory structure of claim 37 wherein the first surface is beneath the second surface.

39. (Original) The magnetic memory structure of claim 37 wherein the first surface is perpendicular to the second surface.

40. (Original) A magnetic memory structure, comprising:

a magnetic memory cell having a ferromagnetic nature to change between first and second states when subject to application of a magnetic field having a magnitude greater than a threshold value; and

a current path through which a current conducts to create a magnetic field coupling the magnetic memory cell, the current path having a first portion and a second portion, the first portion of the current path located adjacent to the magnetic memory cell and having a first cross-sectional area that is less than a second cross-sectional area of the second portion of the current path.

41. (Original) The magnetic memory cell of claim 40 wherein the magnetic memory cell includes a first surface located beneath a second surface and the first portion of the current path adjacent to the first surface.

42. (Original) The magnetic memory cell of claim 40 wherein the magnetic memory cell includes a first surface located beneath a second surface, and the first portion of the current path adjacent to the second surface.

43. (Original) The magnetic memory cell of claim 40 wherein the magnetic memory cell comprises multiple layers, each layer selected from a group consisting of a barrier layer, a seed layer, a pinning layer, a pinned layer, a tunneling layer, and a sense layer.

44. (Original) The magnetic memory cell of claim 40 wherein the first portion of the current path has a first width and the second portion of the current path has a second width, the first width less than the second width.

45. (Original) The magnetic memory cell of claim 40 wherein the first portion of the current path has a first depth and the second portion of the current path has a second depth, the first depth less than the second depth.

46. (Original) A magnetic memory device, comprising:

a memory array having a plurality of magnetic memory cells arranged in rows and columns, each of the magnetic memory cells having

a memory cell having a ferromagnetic nature to change between first and second states when subject to application of a magnetic field having a magnitude greater than a threshold value; and

a current path through which a current conducts, the current path having a first portion and a second portion to provide a magnetic field that couples the memory cell, the first portion of the current path providing a first magnetic field and the second portion of the current path providing a second magnetic field, the sum magnitude of the first and second magnetic fields exceeding the threshold value.

47. (Original) A magnetic memory device, comprising:

a memory array having a plurality of magnetic memory cells arranged in rows and columns, each of the magnetic memory cells having

a magnetic memory cell having a ferromagnetic nature to change between first and second states when subject to application of a magnetic field having a magnitude greater than a threshold value; and

a current path through which a current conducts to create a magnetic field coupling the magnetic memory cell, the current path having a first portion and a second portion, the first portion of the current path located adjacent to the magnetic memory cell and having a first cross-sectional area that is less than a second cross-sectional area of the second portion of the current path.

48-53. (Cancelled)